

A process is provided which comprises using a catalyst comprising a rare earth element supported on an inorganic heat-resisting carrier, when a monoethanolamine is selectively prepared by reacting an alkylene oxide with ammonia in a liquid phase. This catalyst has excellent monoalkanolamine selectivity and heat resistance; and therefore, even when the ratio of ammonia to the alkylene oxide is lower compared with cases where other catalysts are used, an equal or more amount of the monoalkanolamine can be formed, and thus the recovery cost of the unreacted ammonia is reduced. Further, since the total amount of the feed raw materials is reduced, apparatuses for the reaction system and recovery system can be made smaller, and thus the cost of equipment is reduced.

5600020

PROCESS FOR THE PREPARATION OF ALKOXYLATES USING ESTER COMPOUNDS AS CATALYST

Wehle Detlef; Kremer Gerno; Wimmer Ignaz Niedernhausen, GERMANY assigned to Hoechst Aktiengesellschaft

According to the invention, the alkoxylation of compounds containing active hydrogen atoms is carried out in the presence of specific alkaline earth metal salts of alkyl or alkenylsuccinic monoesters as catalyst. The alkoxylation products obtained have a narrow homolog distribution and a good appearance.

5600028

METHOD FOR PRODUCING LOWER POLYHYDRIC ALCOHOLS AND A NEW RUTHENIUM-BASED CATALYST USED IN THIS METHOD

Gubitosa Giuseppe; Casale Bruno Novara, ITALY assigned to Montecatini Technologie S r l; Novamont S p

A ruthenium-based hydrogenation catalyst, particularly but not exclusively for hydrogenolysis under pressure of higher polyhydric alcohols, comprises ruthenium supported on granular activated carbon, and has: a specific surface area of from 600 to 1000 m²/g; a total pore volume of from 0.5 to 1.2 cm³/g; an apparent specific weight (bulk density) of from 0.45 to 0.55 g/cm³; an actual specific weight of from 1.9 to 2.3 g/cm³; a total volume of micropores having a radius smaller than 75 Å of from 0.4 to 0.55 cm³/g; and an ash content of from 2 to 5% by weight. The catalyst is used in a method for the continuous production of lower polyhydric alcohols in a fixed bed reactor, by means of hydrogenolysis under pressure of higher polyhydric alcohols.

5600030

HYDROGENATION CATALYST, A PROCESS FOR ITS PREPARATION AND USE THEREOF

Deckers Gregor; Diekhaus Gerhard; Dorsch Bernd; Frohning Carl D; Horn Gerhardt; Horrig Horst B Xanten, GERMANY assigned to Hoechst Aktiengesellschaft

A process for hydrogenation of an aldehyde selected from the group consisting of propanal, n-butanal, and i-butanal comprising contacting said aldehyde with hydrogen in the presence of a hydrogenation catalyst comprising in the reduced state 25% to 50% by weight of metallic nickel 10% to 35% by weight of nickel oxide 4% to 12% by weight of magnesium oxide 1% to 5% by weight of sodium oxide the remainder being a water insoluble support material, wherein the total of said nickel and said nickel oxide is 40% to 70% by weight based on said catalyst, said catalyst having a total BET surface area of 80 to 200 m²/g and a total pore volume, determined by mercury porosimetry, of 0.35 to 0.6 ml/g, said total volume consisting of 30% to 60% of said volume from pores having pore

radii equal to or less than 40 #521 , 4% to 10% of said volume from pores having pore radii from more than 40 +521 +0 to 300 +521 , and 30% to 60% of said volume from pores having pore radii from more than 300 +521 +0 to 5000 +521 .+RE21 .+RE+RE.+RE21 .+RE21 .+RE21 .+RE21 .+RE21 .+RE

5600031

**PROCESS FOR PREFORMING
COBALTOUS SALTS USING
SHELL-TYPE PREFORMER
CATALYSTS**

Roussel Patricia Baton Rouge, LA, UNITED STATES assigned to Exxon Chemical Patents Inc

A process for preparing oxo alcohols and aldehydes by the cobalt catalyzed hydroformylation of C2 to C17 linear or branched monoolefins with subsequent hydrogenation of the hydroformylation product, in which oxo process aqueous solutions of cobalt salts are converted to active hydrido cobalt carbonyl species in a preformer reactor under preforming reaction conditions, the improvement characterized by the preformer reactor containing a shell-type, metal on substrate, preformer catalyst.

5600033

**EPOXIDE ISOMERIZATION
CATALYSTS**

Faraj Mahmoud K Newtown Square, PA, UNITED STATES assigned to ARCO Chemical Technology L P

Improved catalysts for isomerizing epoxides to allylic alcohols are disclosed. The catalysts contain lithium phosphate supported on high-purity silica. The use of high-purity silica as a support results in improved epoxide conversion and allylic alcohol

selectivity, and reduced by-product generation. The invention includes a process for isomerizing epoxides using the catalysts. The process is well-suited to the manufacture of allyl alcohol from propylene oxide.

5602228

NICKEL PHOSPHATE CATALYSTS

Wang Yin; Marrocco Matthew L; Trimmer Mark Diamond Bar, CA, UNITED STATES assigned to Maxdem Incorporated

Methods for coupling aryl halides or aryl sulfonates to produce biaryls or polyaryls using novel nickel phosphite catalysts are provided.

5602267

**ORGANOMETALLIC CATALYSTS
FOR EPOXIDIZING PROCHIRAL
OLEFINS AND A NEW CLASS OF
AMID-SALICYLIDENE LIGANDS**

Zhao Shu-Ha Corpus Christi, TX, UNITED STATES assigned to Hoechst Celanese

Asymmetric synthesis using a novel catalyst comprising the formula: (*See Patent for Chemical Structure*) and which has utility in areas such as epoxidation of olefins.

5602288

**CATALYTIC PROCESS FOR
PRODUCING CF₃CH₂F**

Rao V N Mallikarjuna Wilmington, DE, UNITED STATES assigned to E I Du Pont de Nemours and Company